

Total number of printed pages-2

53 (IE 801) BMIN

2021

**BIOMEDICAL INSTRUMENTATION**

Paper : IE 801

Full Marks : 100

Time : Three hours

**The figures in the margin indicate full marks for the questions.**

Answer **any five** questions out of **seven**.

1. (a) Explain biopotential electrode and its types. 12  
(b) Explain the working of human heart. 8
2. (a) Explain 12 standard ECG lead configurations. 14  
(b) Explain action potential of a cell. 6

Contd.

3. (a) With a neat diagram, explain the working of a pacemaker. Also explain its types. 14
- (b) Explain Sphygmomanometer and its working. 6
4. (a) Explain *any two* types of spirometer. 14
- (b) Explain construction and working of photoplethysmography. 6
5. (a) Specify the need of a defibrillator. Explain the working of a DC defibrillator. 12
- (b) With a neat diagram, explain the working of an audiometer. 8
6. (a) Explain the construction and working of an X-ray machine. 10
- (b) Explain blood pH measurement. 5
- (c) Explain biotelemetry. 5
7. (a) Explain the construction and working of a heart-lung machine. 14
- (b) With a neat diagram, explain biomedical instrumentation system. 6

